"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC 669.721'862.049.6

KURBATOV, V. L. and E. YE. LUKASHENKO

"The Mechanism of the Distillation of Chlorides of Magnesium and Potassium From Capillary Porous Solids in Vacuum"

V. sb. Vakuumn. protesessy v tsvetn. metallurgii (Vacuum Processes in Nonferrous Metallurgy -- Collection of Works), Alma-Ata, "Nauka," 1971, pp 162-166 (from Referativnyy Zhurnal - Metallurgiya, No 6, Jun 71, Abstract No 6G184)

Translation of Abstract: The kinetics were studied of the sublination of $MgCl_2$ and Kcl from mixtures of finely porous graphite and spongy Ti in vacuum. According to the experimental data, thermodynamic functions were calculated for Chlorides adsorbed from graphite and Ti. (Three illustrations, 6 references).

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UDC 669.721.048

USSR

KURBATOV, V. L., LUKASHENKO, E. YE.

"Study of the Kinetics and Thermodynamics of the Process of Vacuum Distillation of Some Individual Chlorides of a Capillary-Porous Body"

Sb. tr. Vses. mezhvuz. nauch. konferentsii po teorii protsessov tsvetn. metallurgii (Collected Works of the All-Union Interuniversity Scientific Conference on the Theory of Processes in Nonferrous Metallurgy), Alma-Ata, 1971, pp 56-65 (from RZh-Metallurgiya, No 7, Jul 1971, Abstract No 7G224)

Translation: A study was made of the kinetics of evaporation of $MgCl_2$ and KCl in a vacuum from pores in finely porous graphite impregnated in advance with them. The saturated vapor pressures of the chlorides above the graphite were measured at 1,073 and 1,123° K. The capillary effect in the $MgCl_2$ and KCl content ranges in the graphite -- 13-2.5 percent and 8-2.5 percent, respectively -- was discovered. The process of distillation of the chlorides from the graphite in a vacuum is represented as comprising three successive stages: 1) kinetic (chloride content in the graphite >17%); 2) diffusion ($MgCl_2$ 17-2.5%, KCl 17-2.2%); 3) desorption ($MgCl_2 \leq 2.5\%$, $KCl \leq 2.2\%$). The bibliography has 18 entries.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--SATURATED VAPOR PRESSURE AND ENTHALPIES OF SUBLIMATION AND VAPORIZATION OF MAGNESIUM CHLORIDE -U-

AUTHOR-(02)-LUKASHENKO, E.YE., KURBATOV, V.L.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 331-4

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--MAGNESIUM CHLORIDE, VAPOR PRESSURE, HEAT OF SUBLIMATION, THERMODYNAMIC CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0362 STEP NO--UR/0076/70/044/002/0331/0334

CIRC ACCESSION NO--AP0104298

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 018 UNCLASSIFIED PROCESSING DATE--03OCT70

CIRC ACCESSION NO--AP0104298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EQUATIONS LOG P PRIME SAT. SUB MGCLS (L) EQUALS (MINUS 10,513-T) MINUS 1.99 LOG T PLUS 15.52 AND LOG P PRIMESAT. SUBMGCLS(S) EQUALS (MINUS 14,033-T) MINUS 1.29 LOG T PLUS 17.00 WERE DERIVED ON THE BASIS OF THE MEASUREMENT OF THE SATD. VAPOR PRESSURE OF MGCL SUB2 IN THE TEMP INTERVAL 923-1073DEGREESK, BY USING THEMETHOD OF KNUDSEN. VALUES OF DELTA H SUBEVAPN AND SUBLIMATION WERE 33.54 AND 44.35 KCAL-MOLE, RESP.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

Extraction and Refining

USSR UDC 669.713

BARON, L. I., VOBLIKOV, V. S., and KURBATOV, V. M.

"On the Problem of Extracting Metal From Aluminum Slags"

Moscow, Tsvetnyye Metally, No 10, Oct 70, pp 74-75

Abstract: A schematic diagram for the fractionation of aluminum slags, with electromagnetic separation of inclusions after each fractionation step, is presented on the basis of experiments conducted by the authors. Crushers fractionate the initial slag in sizes up to 60-100 mm: the material of the 0-15 mm class is screened and sent for leaching-out. The remaining material is sent to a second fractionation step, and so on. A schematic drawing of the electromagnetic separator is presented, and its operation is described. The method described is said to make it possible to fractionate aluminum slag in sizes which will ensure its easy dissolution in the regeneration of salts, with sufficiently complete extraction of aluminum inclusions.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MEASUREMENT OF THE ELECTRICAL CONDUCTIVITY AND THERMOEMFS. OF MELTS OF HIGHLY VOLATILE SUBSTANCES -U-

AUTHOR-(03)-ABRIKOSOV, N.KH., CHIZHEVSKAYA, S.N., KURBATOV, V.P.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(4), 449-50

DATE PUBLISHED--------70

SUBJECT AREAS--METHODS AND EQUIPMENT, MATERIALS

TOPIC TAGS--ELECTRIC CONDUCTIVITY MEASUREMENT, THERMAL EMF, MOLYBDENUM GLASS, ELECTRODE DESIGN, VAPOR PRESSURE, HIGH TEMPERATURE INSTRUMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3008/1182 STEP NO--UR/0032/70/036/004/0449/0450

CIRC ACCESSION NO--AP0138197

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138197

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS AND APP. WERE DEVELOPED FOR MEASUREMENT OF THE ELEC. CONDS. AND THERMOEMFS. OF HIGHLY VOLATILE MELTS. THE NEW VESSELS ARE MADE OF MO GLASS WITH SEALED MO ELECTRODES FOR MEASUREMENTS AT LOW TEMPS., AND OF FUSED QUARTZ WITH SEALED W ELECTRODES FOF HIGH TEMPS. FACILITY: INST. MET. IM. BAIKOVA, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--RAPID HEATING AND COOLING OF ALUMINUM ALLOYS IN A FLUIDIZED BED -U-

AUTHOR-(02)-KURBATOV, V.P., MURAVYEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 66-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ALUMINUM ALLOY, FLUIDIZED BED, ALLOY DESIGNATION, METAL HEATING, METAL COOLING/(U)ETA6 FURNACE, (U)AK4I ALUMINUM ALLOY

CONTROL MARKINGS--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1283 STEP NO--UR/0129/70/000/002/0065/0065

CIRC ACCESSION NO--AP0106064

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 019 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106064

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE 30-100 (CROSS SECTION) TIMES 150 MM SPECIMENS OF THE AK4L ALLOY WERE HEATED AND COOLED IN THE FLUIDIZED BED OF POWD. ALUXITE (GRAIN SIZE 0.12-0.16 MM) IN A PLANT PROVIDED WITH AUTOMATIC TEMP. REGULATION. THE RESULTS SHOWED THAT THE TIME OF HEATING OF THE CENTER OF A SPECIMENT OT 480DEGREES (5-SIMILAR TO 18 MIN FOR 30-100 MM DIAM.) WAS ONE TENTH-ONE NINTH THAT IN THE ETA6 FURNACE (55-175 MIN) AND TIME OF THEIR COOLING TO ROOM TEMP. WAS 12 MIN COMPARED TO 1.5 AND 160 MIN FOR THE COOLING IN WATER AND IN AIR, RESP. THE STD. MECH. TESTS DID NOT SHOW ANY DEFORMATION OF ALLOYS COOLED IN THE FLUIDIZED BED. THE TECH. CHARACTERISTICS OF THE PLANT USED AND THE RESULTS OBTAINED ARE GIVEN.

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USSR

MIRONOV, O. S. and KURBATOV, V. S., Tsvetnyye Metally, No 3, 1973, pp 63-65

metal surface. Best results were obtained with an outflow rate of 1-1.3 m/sec for soft alloys and 1.5-2 m/sec for hard titanium alloys. Surfaces of molded items in these cases were free of imperfections. Presently it is possible to produce molded items 120 mm in diameter, with 1.5 mm wall thickness.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC: 537.52

KURBATOV, YU. A., TARASENKO, V. F.

"Time Characteristics of Spark Dischargers When a Discharge Is Initiated by a Gas Laser Beam With Wavelength of 0.3371 μm"

Moscow, Kvant. elektronika--sbornik (Quantum Electronics--collection of works), "Sov. radio", 1972, pp 108-109 (from RZh-Fizika, No 6, Jun 73, abstract No 6, Jun 73, abstract No 6G181)

Translation: The time characteristics of the development of a discharge in a gas gap were studied for initiation by a laser beam with wavelength of 0.3371 μm and peak power of 10 kw. Conditions of the experiment: pressure in the research chamber 1-8 atmospheres; length of the gap 1-10 mm, voltage 10-200 kv. The beam was incident on a copper cathode through a grid anode. It was found that in the investigated range the discharge has a delay time of from 1 to 100 ns (depending on conditions); the fluctuations do not exceed $\pm$ 3 ns (even at voltages close to the static breakdown value). The high stability of triggering of the investigated gas gap by a laser beam shows that the latter is an effective source for triggering high-power spark dischargers.

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USSR

UDC: 537.523.4

KURBATOV, Yu. A. and TARASENKO, V. F.

"Time Characteristics of Spark Discharges Initiated by a Laser Pulse"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 142-144

Abstract: Results are given of experiments investigating the time characteristics of spark discharges initiated by a laser pulse of 10 kW of power at a wavelength of 3371 A, the half-amplitude duration of the light pulse being 4 nsec. The radiation was recorded by a FEK-19 photodiode, the signal from which was applied to the time interval meter I2-7. The experiments were conducted in two modes: the first with a pulse of up to 40 kV; the second with a bell-shaped pulse of 50-200 kV. Schematics of the circuits used for both modes are given. Also given are curves for the spark switching time as a function of the electric field intensity and of the gas pressure for gap lengths of 5 and 10 mm. The discharge time is also plotted as a function of the field intensity-to-pressure ratio. The authors express their gratitude to M. F. Bychkov for his useful advice.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC: 621.378.325

TARASENKO, V. F., KURBATOV, Yu. A., BYCHKOV, Yu. I.

"A Nitrogen Pulse Laser With Emission Wavelength of 337.1 nm"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 84-85

Abstract: A nitrogen pulse laser with emission wavelength of 337.1 nm pumped by a transverse electrical discharge is investigated. The supply system utilizes a strip line made of a ceramic material with high permittivity. A maximum peak power of 23 kW is attained when the active length of the discharge is 15 cm. It is shown that when the voltage across the discharge space is increased, there is a rise in the emission power and the optimum pressure. It is established that when the voltage is held constant, the impedance of the laser-produced plasma increases linearly with an increase in the pressure of the working gas. Four illustrations, bibliography of four titles.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR UDC: 621.375.826

TARASENKO, V. F. and KURBATOV, Yu. A.

"Nitrogen Laser With Longitudinal Discharge and High Specific Power"

Moscow, Pribory i tekhnika eksperimenta, No 1, 1973, pp 182-183

Abstract: The purpose of this paper is to indicate means of increasing the power in the pulsations of a nitrogen laser with longitudinal discharge that has been discussed in a number of earlier papers (J. D. Shipman, Jr., Appl. Phys. Letters, 10, 1967, 3, etc.). The reason for the interest in this laser is the possibility of using it to obtain short powerful pulses of about 10 nsec of ultraviolet light. Construction of the modification suggested by the authors for improving the power is shown in a cross-sectional drawing, and some of its technical characteristics are given. A curve of the radiated power as a function of the gas pressure for various voltages applied to the laser tube is also plotted. The authors express their gratitude to Yu. I. Bychkov and P. A. Bokhan for their assistance.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

KURBATOV, Yu. A.

UDC 537.523.4

THE CHARACTERISTICS OF SPARK GAPS ACTIVATED BY A LASER PULSE

[Article by Yu. A. Kurbatov and V.P. Pavlenchev, Kazan'. Original Russian publication: Kvantovaya elektronika, No 1, January 1973, pp 142-145]

The characteristics are studied for the development of a discharge across a gas gap activated by a pulsed nitrogen laser beam with wavelength 3,371 Å and peak power 10 kw. The experimental conditions were: pressure in experimental chamber 1-0 atm, gap length 1-10 mm, voltage 10-200 kv. The beam traveled to a corner cathode through a reticular anode. Within the region studied the discharge follows a time delay of 1-100 nsec (depending on the conditions). In this case fluctuations do not exceed 3 nsec (even at voltages close to that of static breakdown).

Much attention is being devoted today to the problem of estimating a spark discharge with a laser beam. Research on activating spark gaps by lasers with a power of hundreds of megawatts and wavelengths within the red region of the spectrum has been described [1-4]. Good spark gap time parameters have been obtained, but due to the complexity and large size of such lasers their use in switching on spark gaps is highly limited.

It is entirely obvious that a laser operating in the ultraviolet region, for example a nitrogen laser with wavelength 3,371 Å, would make it possible to sharply reduce the required power.

This paper describes results of research on the time characteristics of a spark gap activated by a pulsed laser

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UDC 621.375.82

TARASENKO, V. F., KURBATOV, Yu. A., BYCHKOV, Yu. I.

"Pulsed Nitrogen Laser With a Wavelength of 3371 Å"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No. 2, Moscow, "Sov. radio", 1972, pp 84-85 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D944)

Translation: A pulsed nitrogen laser with a wavelength of 3371 Å pumped by a transverse electric discharge was investigated. A ceramic band line with a high dielectric permeability was applied in the supply system. A maximum peak power of 23 kw was obtained with an active discharge length of 15 cm. It was shown that the radiation intensity andthe optimal pressure rise with an increase in voltage on the discharge interval. It was established that the resistance of the laser plasma increases linearly with an increase in the pressure of the working gas at constant voltage. Authors abstract.

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USSR

UDC:533.6:629.76+629.78

GUN'KO, Yu. F., KURBATOVA, G. I., FILIPPOV, B. V.

"Method of Calculation of Aerodynamic Factors of Bodies in a Highly Rarefied Plasma in the Presence of a Strong Internal Magnetic Field"

Aerodinamika Razrezh. Gazov [Aerodynamics of Rarefied Gases -- Collection of Works], No 6, Leningrad University Press, 1973, pp 51-60 (Translated from Referativnyy Zhurnal Aviatsionnyye i Raketnyye Dvigateli, No 9, 1973, Abstract No 9.34.17)

Translation: The influence of the internal magnetic field on the aerodynamic characteristics of bodies moving in a rarefied plasma was studied. The study was performed for the case where $R>>\rho_i$, where R is the characteristic dimension of the body, ρ_i is the Larmor radius of an ion near the surface of the body. The internal magnetic field was a dipole field. It is shown that for $R'>>1$, the primary contribution to forces and moments is made by particles scattered by the dipole field, and in this case the stagnation force is proportional to $h_0 V e_i M$, where h_0 is the unperturbed ion density, V is the velocity of motion of the body, e_i is the ionic charge, M is the dipole moment. In calculating the forces and moments

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GUN'KO, Yu. F., KURBATOVA, G. I., FILIPPOV, B. V., Aerodinamika Razreh. Gazov, No 6, Leningrad University Press, 1973, pp 54-66

acting on the body due to indirect collisions of ions with the surface of the body, drift equations of motion were used. As an example, calculations are presented for a sphere moving parallel to the axis of the dipole. 3 Figures; 10 Biblio. Refs. Resume

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USSR

UDC: 629.78.015:533.9

GUN'KO, Yu. F., KURBATOVA, G. I., FILIPPOV, B. V.

"Method of Calculating Aerodynamic Coefficients of Bodies in a Highly Rarefied Plasma in the Presence of the Strong Magnetic Field of the Plasma"

Aerodinamika Razrezh. Gazov [Aerodynamics of Rarefied Gases -- Collection of Works], No 6, Leningrad University Press, 1973, pp 54-66 (Translation from Referativnyy Zhurnal Raketostroyeniye, No 10, 1973, Abstract No 10.41.76, from the resume)

Translation: The influence of the internal magnetic field on the aerodynamic characteristics of bodies moving in a rarefied plasma was studied. The study was performed for the case $R \gg \rho_u$, where R is the characteristic size of the body, ρ_u is the larmor radius of an ion near the surface of the body. The natural magnetic field was a dipole field. It is shown that for $R' \ll 1$, the primary contribution to forces and moments is made by particles scattered by the dipole field, the braking force in this case being proportional to $n_0 V_e l_u M$, where n_0 is the unperturbed ion density, V_e is the velocity of motion of the body, l_u is the ion charge, M is the dipole moment.

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USSR

GUN'KO, Yu. F., et al., Aerodinamika Razrezh. Gazov, No 6, 1973, pp 54-66

In calculating the forces and moments acting on the body as a result of direct collisions of ions with the surface of the body, the drift equations of motion were used. As an example, calculations are presented for a sphere moving parallel to the axis of the dipole. 3 figures; 10 biblio. refs.

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USSR UDC 669.1.003:620.4

VOSKOBOYNIKOV, V. G., PERLOV, N. I., KURBATOVA, N. O., MEL'NIK, N. A.

"Prospects for Utilization of the Thermal Energy of Nuclear Reactors at Ferrous Metallurgy Plants"

Moscow, Stal', No 11, Nov 72, pp 1052-1055.

Abstract: Based on a review of the literature and information materials, as well as the authors' own studies and technical and economic evaluation, possibilities are anlyzed of direct utilization of the thermal energy of nuclear reactors at metallurgical plants. Great interest is being shown in this problem in Japan and West Germany, due to the low reserves of fossil fuel and its high price. In the USA, although nuclear power engineering has been broadly developed, the use of nuclear reactor heat in ferrous metallurgy is considered unfavorable, primarily due to the lower cost of conventional fuel. Versions of the utilization of nuclear reactor heat at metallurgical plants of various structures with blast furnaces and with direct iron reduction shops have been studied for the conditions present in the USSR. The use of the heat of nuclear reactors at metallurgical plants leads to elimination of the share of natural gas from the balance. The low cost of natural gas in the USSR raises doubts as

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VOSKOBOYNIKOV, V. G., et al., Stal', No 11, Nov 72, pp 1052-1055

to the expediency of this suggestion. An economic criterion is suggested for the effectiveness of the use of nuclear reactor heat in ferrous metallurgy (in comparison to natural gas). The question of the economic effectiveness of the use of nuclear reactors must be solved considering all its aspects on the scale of the entire economy of the nation. At the present time, the problem has not yet gone beyond the stage of scientific research and experimental work.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC 632.95

LUKANINA, V. S., BELUSHYY, S. P., NEL'NIKOV, N. N., IVANOVA, S. P., GORSHKOVA, V. V., KOSTYUKOVA, N. I., and KUZ'MINOVA, T. I.

"Emulsifiable Concentrate of 5,4'-Dichlorosalicylanilide -- An Effective Molluscicide"

V sb. Khim. sredstva zashchity rast. (Chemical Plant Protectants -- collection of works), vyp 1, Moscow, 1970, pp 61-65 (from RZh-Khimiya, No 13, 10 Jul 72, Abstract No 13N198 by I. Pil'menshteyn)

Translation: The use of 5,4'-dichlorosalicylanilide (I) in the form of a 10-percent emulsion concentrate (EC) increases its molluscicidal activity 8-9 fold over that of an ammonia solution. I is 800-900 times more effective than $CuCO_3$. At a $1:9.10^5$ dilution I provides 100% destruction of molluscs. In the applied concentration I is harmless for warm-blooded animals and grass cover. There is no change in the physicochemical properties and molluscicidal activity of the EC of I when it is stored in an airtight container for two years. The 10% EC of I is recommended for application in agriculture in doses of 1-5 kg/ha.

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AA0040740 KURBATSKIY I.L. UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

242325 ARC IRONMAKING FURNACE hearth is asymmetrically convex so that it expands towards the charging window and narrows towards the notch, whilst the electrodes lie in the narrow portion to provide continuous iron making. The charge is fed in continuously into the bath (3) of molten metal and the charged lumps draw heat from the metal which has been produced by the arc between this and the electrodes (4). The position of the notch (6) ensures that the bath maniscus remains at a constant level. Surplus flows out thus to a teeming arrangement for re-pouring into cast product. Slag also runs off continuously thus keeping the bath clean and receptive to the heat from the arc. The hottest metal flows off continuously, some of it is turbulised near the periphery and returned to the bath to melt the slag component.

19.5.67 as 1157178/22-2.CHERNYI.A.A.et al.PENZA COMPRESSOR WORKS. (2.9.69) Bul 15/25.4.69. Class 31a[1]. Int.Cl.F 27 b.

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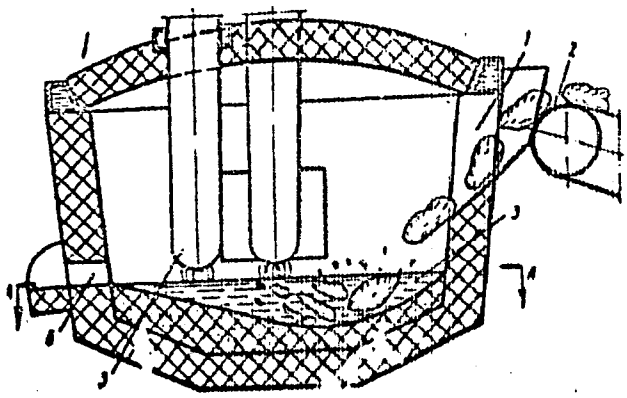

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AUTHORS: Chernyy, A. A.; Grachev, V. A.; Marienbakh, L. M.; Ivanov, D. P.; Kurbatskiy, I. L.; Soshovskiy, Ye. D.; and Pavlenko, N. S.

Penzenskiy Kompressornyy Zavod

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Soviet Inventions Illustrated, Section I Chemical, Derwent,

240946 IRON SMELTING IN A GAS-FIRED CUPOLA blows it with previously thermally cracked hydrocarbons during melting so as to promote assimilation by the iron of the carbon involved. This gas is thermally cracked by passing it round in conduits let into the cupola lining and thus emerges as a heated mix of carbon black and gaseous hydrogen. This is suitable for continuous carburising of the iron in the cupola. 1.2.66 as 1052704/22-2. GRACHEV.V.A.et al.(19.8.69) Bul 13/1.4.69. Class 31a. Int.Cl.B 22b.

LD

AUTHORS: Grachev, V. A.; Chernyy, A. A.; Mariyenbakh, L. M.; and Kurbatskiy, I. L.

19750335

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 033 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--HEPTACHLOR METABOLISM IN THE BODY -U-

AUTHOR-(03)-GIRENKO, D.B., KURCHA, G.V., KLISENKO, M.A.

COUNTRY OF INFO--USSR

SOURCE--GIGIYENA I SANITARIYA, 1970, NR 6, PP 19-22

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PESTICIDE, CHLORINATED ORGANIC COMPOUND, METABOLISM, HUMAN PHYSIOLOGY/(U)HEPTACHLOR PESTICIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0828 STEP NO--UR/0240/70/000/006/0019/0022

CIRC ACCESSION NO--AP0126505

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 033 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0126505

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEPTACHLOR PROVED TO ACCUMULATE IN THE TISSUES OF INTERNAL ORGANS (FATTY TISSUES) AND TO BE ELIMINATED FROM THE BODY IN FECES BOTH IN ITS UNALTERED FORM AND IN THE FORM OF METABOLITE 1 AND 2 OF HEPTACHLOR EPOXY. THE METABOLITE 1 MAY AS WELL CHANGE TO THE HEPTACHLOR EPOXY FORM. THE DATA OBTAINED ARE IMPORTANT FOR INVESTIGATING THE PROBLEM OF ACCUMULATION, DISTIRBUTION AND ELIMINATION OF CHLORORGANIC PESTICIDES FROM THE BODY. FACILITY: VSESOYUZNYY NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT GIGIYENY TOKSIKOLOGII PESTITSIDOV, POLIMERNYKH PLASTICHESKIKH MASS, KIYEV.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UDC 577.1:615.7/9

USSR

KURCHATOV, G. V., LYSENKO, N. M., MIZYUKOVA, I. G., and PETRUN'KIN, V. Ye.

"Relationship Between the Structure and Therapeutic Activity of Sulfur- and Nitrogen-Containing Compounds"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active Substances. Republic Interdepartmental Collection), 1972, No 4, pp 62-65 (from RZh-Biologicheskaya Khimiya, No 4, Feb 73, Abstract No 4 F1915 by D. M. Glukharev)

Abstract: Mice and rats received a single intragastic injection of industrial heptachlor (71%; LD_{50}), after which a study was made of the antitodal and therapeutic effect of thiols (aliphatic and fatty-aromatic series and their derivatives), ethanolamines (and their derivatives), and S-acyl- and S-alkyl derivatives of α-aminothiols administered subcutaneously or perorally 20 to 30 minutes before and secondarily immediately after poisoning in doses amounting to a double equimolar excess with respect to the poison. Several sulfur-containing compounds were tentatively included among the ethanolamine derivatives (mono- and diethanolamines). A total of 33 substances were investigated. Only the hydroxy derivatives of the S-acyl-α-aminothiols possessed a marked antitodal effect. Diethanolaminomethyl thioacetate was the most active.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC 615.917

KURCHATOV, G. V.

"A Search For Antidotes for Hexachlorobutadiene"

V sb. Gigiyena primeneniya, toksikol. pestitsidov i klinika otravl. (Hygiene of the Application and Toxicology of Pesticides and the Clinical Aspects of Poisoning — collection of works), vyp. 9, Kiev, 1971, pp 264-268 (from Ref Zh-Farmakologiya. Khimioterapevticheskiye sredstva. Toksikologiya, No 2, Feb 72, Abstract No 2.54.795)

Translation: For detoxication purposes, 20-30 minutes before a single intraperitoreal injection of hexachlorobutadiene in the amount of DL_{50} (300 mg/kg and more) and again immediately after poisoning, rats were injected hypodermically or intraperitoreal with thiols and their derivatives in twice the equimolar excess with respect to the poison. On comparison of the effect of unithiol (I), mercaptide and cysteine, the greatest therapeutic effect was detected for I; for a dose of hexachlorobutadiene DL_{50}, the activity of I was less expressed. Synthesized analogs of I -- mono and especially diethanolammonium salts of 2,3-dimercaptopropanesulfonic acid turned out to be the most active. The therapeutic effect of these compounds was exhibited even for absolutely lethal doses of hexachlorobutadiene. It is assumed that I

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KURCHATOV, G. V., Gigiyena primeneniya, toksikol. pestitsidov i klinika otravl., vyp. 9, Kiev, 1971, pp 264-268

and its ammonium salts react via their SH-groups with the active centers of hexachlorobutadiene and in this way prevent damage to the mercapto groups of the biological compounds.

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1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--POSSIBLE CASE OF VIOLATION OF THE INDEPENDENCE OF COMPOUND NUCLEUS DECAY OF THE INPUT CHANNEL SPIN -U-

AUTHOR-(05)-KAKADZHEV, K.V., MANKO, V.I., PERSESYAN, A.N., CHUKREEV, F.E., KURCHATOV, I.V.

COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL. 11, NO. 2, P. 88-92 (JAN. 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ANGULAR DISTRIBUTION, NUCLEAR SPIN, COMPOUND NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1787 STEP NO--US/0000/70/011/002/0088/0092

CIRC ACCESSION NO--AP0133692
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UNCLASSIFIED PROCESSING DATE--

2/2 009

CIRC ACCESSION NO--AP0133692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS OF THE ANGULAR DISTRIBUTIONS OF REACTIONS ON NUCLEI WITH NONZERO SPIN UNCOVER NEW POSSIBILITIES OF VERIFYING THE INDEPENDENCE OF THE COMPOUND NUCLEUS DECAY METHOD OF THE INPUT CHANNEL OF THE REACTTION. FACILITY: ATOMIC ENERGY INST., USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--POSSIBLE CASE OF VIOLATION OF THE INDEPENDENCE OF COMPOUND NUCLEUS DECAY OF THE INPUT CHANNEL SPIN -U-

AUTHOR-(05)-KARADZHEV, K.V., MANKO, V.I., PERSESYAN, A.N., CHUKREEV, F.E., KUZMICHOV, I.V.

COUNTRY OF INFO--USSR

SOURCE--JETP LETTERS (USA), VOL. 11, NO. 2, P. 86-92 (JAN. 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ANGULAR DISTRIBUTION, NUCLEAR SPIN, COMPOUND NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1787 STEP NO--US/0000/70/011/002/0086/0092

CIRC ACCESSION NO--AP0133692
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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 009 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0133692

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MEASUREMENTS OF THE ANGULAR DISTRIBUTIONS OF REACTIONS ON NUCLEI WITH NONZERO SPIN UNCOVER NEW POSSIBILITIES OF VERIFYING THE INDEPENDENCE OF THE COMPOUND NUCLEUS DECAY METHOD OF THE INPUT CHANNEL OF THE REACTTION. FACILITY: ATOMIC ENERGY INST., USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC 535.39+621.373:535].01

KURCHATOV, YU. A. and MALINOV, I. A.

"Reflection of a Multimodal Laser Beam From a Dielectric Interface"

Leningrad, Optika i Spektroskopiya, Vol XXXI, No 2, Aug 71, pp 283-287

Abstract: It is known that any arbitrary distribution of a monochromatic light in a beam may be broken down by types of oscillations, where each oscillation satisfies the wave equation $\nabla^2 u + k^2 u = 0$. Types of oscillations form a complete orthogonal system of functions. They are almost transverse and are characterized by two indexes which reflect the change in intensity in two orthogonal directions in a cross section of the beam. The authors studied the reflection from the plane interface of two dielectrics of a multimodal laser beam with a distribution of the following kind in each mode TEM_{mn}:

$$I = I_0 e^{-2\frac{x^2+y^2}{\omega^2}} H_m^2\left(\frac{x\sqrt{2}}{\omega}\right) H_n^2\left(\frac{y\sqrt{2}}{\omega}\right),$$

where H_m and H_n are Hermite polynomials; m, n = 0, 1, 2,... are the indexes of the type of oscillations; and ω is the radius of the beam. With the aid of integral Fourier transforms they obtained approximation expressions for the reflection coefficients. They found that modes $TEM_{m,n+1}$ and $TEM_{m,n-1}$ appear in

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KURCHATOV, YU. A. and MALINOV, I. A., Optika i Spektroskopiya, Vol XXXI, No 2, Aug 71, pp 283-287

the reflected beam. The amplitudes of these modes have an order of $1/\omega k$ if the amplitude of the mode TEM_{mn} is taken to be one. Furthermore, the energy coefficient of the reflection depends only slightly on the numbers of the modes when m and n are not very large.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR UDC: 621.373:530.145.6

KURCHATOV, Yu. A., OSIPOV, A. S., SIDOROVA, L. A.

"Determination of the Permissible Spatial Mismatch of a System of Two Open Resonators"

Elektron. tekhnika. Nauchno-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronic Technology. Scientific and Technical Collection. Monitoring and Measuring Equipment), 1970, vyp. 2 (20), pp 84-88 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D252)

Translation: An expression is presented which defines the relative change in the coupling factor between two open spherical resonators matched by a lens when they are mutually displaced with respect to the matched state. Experiments are described for empirically checking this relationship on an installation with a laser and a spectrum analyzer. Satisfactory agreement is found between theory and experiment. Four illustrations, one table, bibliography of three titles. N. S.

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Public Health, Hygiene, and Sanitation

UDC 614.7:66

USSR

POPOV, T., BASMADZHIYEVA, K., KURCHATOVA, DAVIDKOVA, K., and MEYKOVSKA, L., Scientific Research Hygiene Institute, Sofia

"Combined Effect of Chemical Agents That Pollute Air and Water Simultaneously"

Moscow, Gigiyena i Sanitariya, No 12, 1971, pp 77-79

Abstract: In a two-month experiment, rats were poisoned by simultaneous round-the-clock inhalation of the contact herbicide dinitroorthocresol (DNOC) at the maximum permissible level and by daily ingestion of doses twice the maximum permissible dose. The results of 32 tests (behavior, change in weight, blood inorganic phosphorus, content of sulfhydryl groups, RBC, WBC, hemoglobin, catalase, peroxidase, and cholinesterase activities, and so forth) failed to reveal any functional disturbances in the main organs and systems of the animals. This is attributed to the absence of changes in the balance of energy-rich phosphorus compounds and in the content of sulfhydryl groups. It would appear that brief exposure to DNOC, peroral at a concentration twice the maximum permissible dose and by inhalation at the maximum possible concentration, does not constitute a danger to human health.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

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UDC 612.822.3.08

DAN'KO, S. G. and KURCHAVYY, G. G., Laboratory of Nerve Cell Physiology, Institue of Evolutionary Physiology and Biochemistry imeni Sechenov, Academy of Sciences USSR, Leningrad

"A Transistorized Amplifier for Microelectrode Recordings with Greater Potential Applicability"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 8, Aug 73, pp 1293-1295

Abstract: A transistorized, two-channel amplifier for microelectrodes is described which is more universally applicable, has a high input resistance and a low current through the object and allows correction for linear distortion of input circuits and compensation for the capacitance between the electrodes and the bond resistance. Differential input, low baseline drift, adjustable coefficient of amplification and transmission band and low noise are other features. The division of function between separate units is said to permit simplified construction and stabilization of properties during use.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC: 612.811

KURCHAVYY, G. G., DAN'KO, S. G., ZUBKOV, A. A., KAMENSKIY, Yu. L., Laboratory of Nerve Cell Physiology of the Institute of Evolutionary Physiology and Biochemistry imeni I. M. Sechenov, Academy of Sciences USSR, Leningrad; Department of Electronic Medical Equipment of the Leningrad "Order of Lenin" Electrical Engineering Institute imeni V. I. Ul'yanov (Lenin)

"A Method of Measuring the Impedance of the Membrane of Motoneurons During Synaptic Actions"

Leningrad, Fiziologicheskiy Zhurnal SSSR, Vol 58, No 8, Aug 72, pp 1309-1312

Abstract: The paper demonstrates the feasibility of separating the postsynaptic potential and the signal induced by variation of the conductivity of the motoneuron membrane. A simplified block diagram of the installation used by the authors to measure curves of transient impedance of the motoneuron membrane is shown in the figure. The object to be studied is connected in the arm of a bridge circuit fed by sinusoidal alternating current. The signals induced in the measurement diagonal of

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

KURCHAVYY, G. G. et al., Fiziologicheskiy Zhrunal, Vol 58, No 8, Aug 72, pp 1309-1312

the bridge during stimulation of motoneurons are sent through the phase-sensing detector and then averaged, the sequence of stimuli impinging on the cell being incoherent with the reference current. The use of two phase detectors enables measurement of the cophasal and quadrature components of the transient impedance. Accumulation is used to achieve a usable signal-to-noise ratio. The operation of the synchronization module is described, and errors are analyzed. The maximum relative error of linear interpolation is no more than 5%.

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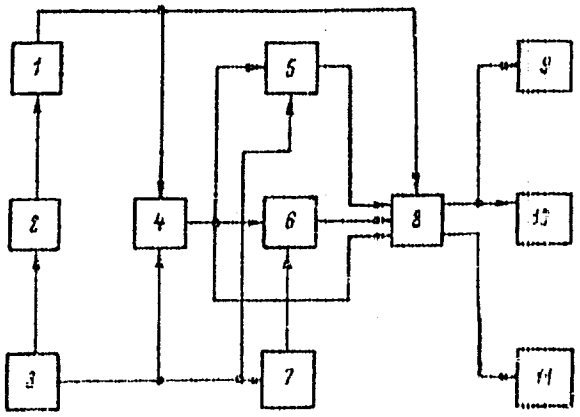
KURCHAVYY, G. G. et al., Fiziologicheskiy Zhurnal, Vol 58, No 8, Aug 72, pp 1309-1312



1--stimulator; 2--synchronization module; 3--audio oscillator; 4--bridge measurement circuit; 5, 6--phase detectors; 7--phase shifter; 8--"Ural 1113" digital computer; 9--oscilloscope; 10--chart recorder; 11--printer.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

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AUTHOR--KURCHENKO, I.N.

COUNTRY OF INFO--USSR

SOURCE--FARMATSIYA (MOSCOW) 1970, 19(1), 20-2

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ALKALOID, REDOX REACTION, BRASS, ALUMINUM, SILICON, GLASS, PROCELAIN, POLYTETRAFLUORETHYLENE, CONTAINER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1356 STEP NO--UR/0466/70/019/001/0020/0022

CIRC ACCESSION NO--AP0125004

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125004

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WHEN BRASS, STAINLESS STEEL AND ALUMINUM APP. ARE USED, THE TITLE PREPN. CONTAINS OXION. PRODUCTS, PAPAVERINCL AND PAPAVERALDINE. THE OBTAINED SOLNS. ARE NOT STABLE CHANGING THEIR COLOR. IN SILICONIZED GLASS, POLYFLUOROETHYLENE, GLASS AND PORCELAIN APP. NO OXION. OCCURS, THE FINAL PRODUCT IS PURE, DOES NOT CHANGE COLOR, AND IS MORE EFFECTIVE. FACILITY: KHAR'KOV. NAUCH.-ISSLED. KHIM.-FARM. INST., KHARKOV, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

AA0052393 KURCHENKO, V.P. UR 9482

Soviet Inventions Illustrated, Section III Mechanical and General, Derwent, /-X-

240970 ELECTRIC SPEED LIMITER FOR HOISTS comprising two d.c. tachogenerators and electromagnetic relays, differing in one winding of the serviceability check relay being included in the circuit of the tachogenerator of the hoist motor and the other included opposed to the first in the circuit of the tachogenerator of the retarding device This serves as an extra safety precaution. The operation is based on a comparison of the speed of the hoist set on the tachogram by the retarding device and command apparatuses 6 and 7, with the actual speed, checked by tachogenerators 1 and 8. When there is no discrepancy, a constant current is maintained in the circuits of relays 2 and 3 with the aid of command apparatuses 6 and 7; throughout the whole lifting cycle, as a result of which the contacts of relays 2 and 3 in safety circuit 10 remain closed. On any discrepancy occurring in one of the branches of the limiter, there is a branch of the symmetry of the currents in winding 4 and 5 of relay 9, which causes the contacts of relay 9 in circuit 10 to open.

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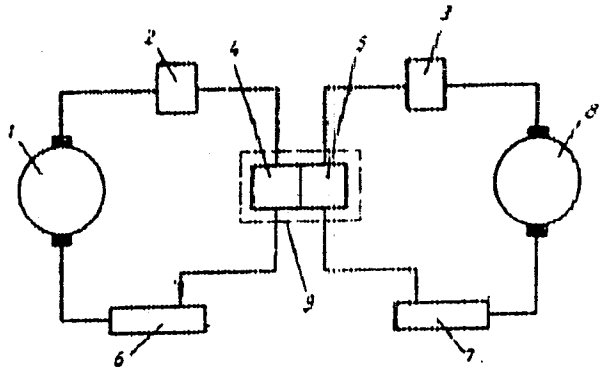

10.7.67. as 1170404/22-3, GURIN, N. IA. et al. Donetsk Finishing Directorate (21.8.69) Bul. 13/1.4.69. Class 35a, Int. Cl. G 05g.

Gurin, N. Ya.; Kurchenko, Ye. M.; Shapavalov, M. I.
Donetskoye Naladochnoye Upravleniye

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR UDC: 681.317.353

MORGACHEV, A. V., KURCHER, V. A.

"A Pulse Duration Modulator"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 12, Apr 71, Author's Certificate No 299983, Division H, filed 6 Oct 69, published 26 Mar 71, pp 216-217

Translation: This Author's Certificate introduces a pulse duration modulator which contains an auxiliary back-to-back sawtooth signal source, a null indicator and a switch all connected in series. As a distinguishing feature of the patent, conversion linearity is improved and the input signal is eliminated in the case of zero input by adding another series circuit made up of a null indicator and a switch, and also two adders with inverters at one of the inputs. The input of the additional null indicator is connected to the output of the auxiliary back-to-back sawtooth signal source, and the inputs of the inverters are connected to the outputs of the null indicators. The second inputs of the adders are cross-connected to the outputs of the switches.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

KURCHEVSKAYA, YE. O.

XVI-14. THEORETICAL AND REAL LAWS OF FORMATION OF THIN SEMICONDUCTOR LAYERS OF COMPLEX COMPOSITION OBTAINED BY THERMAL EVAPORATION IN A VACUUM

[Article by Yu. F. Ozerov, L. K. Vanin, Ye. O. Kurchevskaya, L. A. Konstantinova, V. M. Lagunenkiy, Leningrad; Konferentsiya [i] Simpozium po fotoelektricheskim Yavleniyam v Poluprovodnikovykh Plenkakh, Russian, 12-17 June 1967, p 233]

The simplest method of manufacturing thin layers of complex composition containing two components, for example, $Ag_2Se_xTl_{2Se}$, consists in evaporating in a vacuum from one evaporator of liquid melts or mixtures from the solid phase.

The variations in the layer composition were calculated as a function of the composition of evaporated melts. It was demonstrated experimentally (the $Se-Ag_2Se_x$, $Ag_2Se_x-Tl_2Se$ melts, and so on) that the real laws of the formation of the layer composition are close to the calculated laws if convection plays a proposed by the calculation takes place in the evaporator.

The variations in composition of the layers as a function of the composition of the evaporated substance were calculated for evaporation of mechanical mixtures. In the example of PbTe-S it was demonstrated that under real conditions the layer of material in the evaporator has significant resistance to the vapor flow. In the example of sublimation of a number of mixtures (Sb_2S_3-Sb_2O_3, and so on) it was demonstrated that there is a qualitative correspondence between the theoretically calculated and real laws of formation of the layer composition.

The operating results permit determination of the evaporation conditions ensuring the given nature of distribution of the components with respect to the thickness of the layers.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

KURCHEVSKIY, R.F.

SPIS 59208
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K-4. ALLOYING EPITAXIAL LAYERS OF SILICON BY THE GAS DISCHARGE METHOD IN THE GLOW DISCHARGE REGION

[Article by O. M. Borisov, L. M. Sirotkina, M. S. Kuznetsov, R. F. Kurchevskiy, L. I. Gavrilenko, A. G. Sirotkina, Minsk, Voprosy Mikroelektroniki, III Simpozium, Proizvodstvo Rosta i Sintez Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 111]

An experimental study was made of the possibility of gas discharge alloying of epitaxial layers of silicon under glow discharge conditions between the electrode containing the alloying substance.

The variation in alloying level by substrate material V and III was investigated for transmission of H_2, Ar and mixtures of the gases through the discharge chamber.

In order to discover the mechanism of the formation of the alloying structure, the ion energies of H_2^+ and Ar and the threshold energies of deposition of the electrodes made of Au-Sb and La^{3+} alloys were calculated. The calculations indicate the different mechanism of formation of alloying structure on transmission of H_2 and Ar through the discharge chamber and explain the observed experimental characteristics of alloying.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

UDC 621.314.61(088.8)

KURCHIK, B. Z. [Leningr. elektrotekhn. in-t svyazi--Leningrad Electrical Engineering Institute of Communications]

"Device for Step-by-Step Voltage Regulation"

USSR Author's Certificate No 275164, filed 11 Feb 69, published 12 Oct 70 (from RZh—Elektronika i yeye primeneniye, No 5, May 1971, Abstract No 5B461P)

Translation: A device is proposed for control of a thyristorized rectifier, the basis of which is a frequency divider made in the form of a single-phase half-wave rectifier with a capacitance filter, connected to the series-connected transistor collector-emitter junctions, resistor, and dynistor. When the capacitor charges, the dynistor breaks down and with the feeding at this time of a control signal to the transistor, a signal is removed from the resistor and enters a sawtoothed voltage generator. With equality of the reference and sawtoothed voltages, the comparison unit operates and signals enter the thyristors through the coincidence circuit. Use of the frequency divider in question makes it possible to increase the efficiency of the device. 2 ill. V. Sh.

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USSR

BALAKIN, V. YE., BUKIN, A. D., KURDADZE, L. M., ONUCHIN, A. P., PAKHTUSOVA, YE. V., SEREDNYAKOV, S. I., SIDOROV, V. A., and KHABAKHPASHEV, A. G., Institute of Nuclear Physics of the Siberian Department of the Academy of Sciences USSR

"Observation of Double e^+e^--Pair Production"

Moscow, Yadernaya Fizika, Vol 16, No 4, 1972, pp 729-733

Abstract: The article describes results of the first experiments (in 1969 and 1970) on the observation of the process of the double pair production of the electron-positron pairs $e^+e^- \rightarrow e^+e^-+e^+e^-$ on a VEPP-2 positron-electron accelerator ring. Papers on this work were presented in 1971 at international conferences in Amsterdam and Cornell. The cross-section of the process for large angles of emission for the produced particles was measured. The experimental results were found to be in agreement with the theoretical calculations of V. N. BAYYER and V. S. FADIN.

The authors thank V. N. BAYYER and V. S. FADIN for discussions.

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1/2 007 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--REFORMATSKII REACTION IN A SERIES OF CARBOHYDRATES -U-

AUTHOR-(03)-ZHDANOV, YU.A., ALEKSEYEV, YU.YE., KURDANOV, KH.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(4), 943-4

DATE PUBLISHED--------70

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CIRC ACCESSION NO--AP0133298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BRCH SUB2 CO SUB2 ET WAS CONVERTED WITH ZN AND 3,O,BENZYL,1,2,O, CYCLOHEXYLIDENE,5,ALDEHYDO,ALPHA,D,XYLO,PENTODIALDOSE VIA THE REFORMATSKII REAGENT TO GIVE 83PERCENT ET 3,O,BENZYL,1,2,O, CYCLOHEXYLIDENE,6,DEOXY,ALPHA,D,GLUCO(BETA,L,IDO),HEPTOFURANOSURONATE (I), SYRUP, (ALPHA) PRIME25 SUBD MINUS 140EGREES, WHICH WITH AC SUB2 O-PYRIDINE GAVE 83PERCENT SIRUPY ACETATE, (ALPHA) PRIME22 SUBD MINUS 39DEGREES, WHICH CAN BE DEACETYLATED TO THE ORIGINAL SUBSTANCE, AND WHICH WITH AQ. ALC. KOH YIELDS 3,O,BENZYL,1,2,O, CYCLOHEXYLIDENE,6,DEOXY,ALPAH,D,GLUCO(BETA,L,IDO),HEPTOFURANSOSURONIC ACID, SYRUP, (ALPHA) PRIME21 SUBD MINUS 23DEGREES. FACILITY: ROSTOV. GOS. UNIV., ROSTOV, USSR.

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UDC 539.219.1

USSR

GIORGADZE, M.P., KURDIANI, N.I.

"Low-Frequency Noise Of Photocurrent In Gallium Arsenide Irradiated by Neutrons"

V sb. Radiats. fiz. poverkh. poluprovodnikov (Radiation Physics Of Semiconductor Crystals--Collection Of Works), Vol 3, Part 2, Kiev, "Naukova dumka," 1971, pp 28-32 (from RZh--Elektronika i yeye primeneniya, No 10, October 1971, abstract No 10B255)

Translation: Some data are communicated concerning the noise oscillations of a photocurrent originating in the volume of GaAs after its irradiation by fast neutrons. The investigations were conducted at the temperature of liquid nitrogen with an initial concentration of current carriers of $4 \cdot 10^{14}$ cm^{-3} and a mobility of $3 \cdot 10^{3}$ cm^{2}/v.sec. The specimens were irradiated by fast neutrons with a $5 \cdot 10^{17}$ cm^{-2} dose at a 50-60° temperature. During illumination of the irradiated specimens of GaAs by white light at 77° K in a circuit consisting of series-connected power supplies, the specimen, and a load resistance on the order of 1 K.ohm, the low-frequency continuous noise oscillations of the photocurrent appeared. Their amplitude and frequency with d-c voltage vary with the intensity of the light I according to the law of $I^{1/2}$ and are increased with growth of the intensity of the electrical field in the crystal. It is established that the noise observed does not result from phenomena at the contacts, but with generation by light in the crystal volume of the nonequilibrium current

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USSR

GIORGADZE, M. P., and KURDIANI, N. I., Radiats. fiz. nemet. kristallov (Radiation Physics of Nonmetallic Crystals -- Collection of Works), Vol 3, Part 2, Kiev, "Nauk. dumka," 1971, pp 26-32 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B235)

carriers from the energy levels of radiation defects. In order to determine the role of various radiation defects in the formation of noise oscillations of the photocurrent, isochronous annealing was conducted in the temperature interval 200--300° C for 3 min at each specified temperature. After annealing at 200° C a section of the voltampere characteristic of the specimen was observed with an incremental negative resistance in the 90--150 v interval. The amplitude and frequency of the noise attains maximum value at this section. Annealing at 300° C leads to a complete disappearance of the noise. It is assumed that two mechanisms are responsible for generation of the noise: 1) Formation of a different type of deep traps with substantially differing nonequilibrium electron and hole capture cross sections which are generated by light. Dispersion of the capture cross sections of different recombination centers is a possible cause of the photocurrent noise. 2) As the annealing proceeds the definite recombination centers responsible for noise become moving electrical domains which are formed by capture of nonequilibrium electrons at the negatively charged radiation defects with an increase of the electrical field intensity. 4 ref. I.I.

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Converters

USSR UDC 681.142.6:681.142.33

SMOLOV, VLADIMIR BORISOVICH; CHERNYAVSKIY, YEVGENIY ALEKSANDROVICH; POLYANSKAYA, TAT'YANA IVANOVNA; LURDIKOV, BORIS ALEKSANDROVICH

"All-Purpose Electronic Information Converter"

Universal'nyye elektronnyye preobrazovateli informatsii (or English above), Leningrad, "Mashinostroyeniye," 1971, 312 pp. 2 tab. 150 ill. [illegible] ref. 1 r 25 k

Abstract: In the book the theoretical prerequsites are considered which lie at the base of planning of electronic information converters; an account is presented of the basic elements and units fulfilled by semiconductor elements. Great importance is alloted to problems of conversion of the normalized amplitude of a-c voltage into binary code; the possibility is shown of fulfillment of mathematical operations with coding of the d-c and a-c voltages; and problems are considered of the evaluation of information reliability of voltage conversion. The book is intended for engineers concerned with problems of the construction of up-to-date systems of monitoring and control, both in the field of contemporary machine-building and in other branches of technology which use digital and combined computing devices. It will be useful also for students and graduate students of higher educational institutions who are connected with the development of devices for computing, control, and information-measuring techniques.

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USSR

SMOLOV, VLADIMIR BORISOVICH, et al., Universal'nyye elektronnyye preobrazovateli informatsii, Leningrad, "Mashinostroyeniye," 1971, 312 pp. 2 tab. 1b0 ill. 54 ref. 1 r 28 k

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SMOLOV, VLADIMIR BORISOVICH, et al., Universal'nyye elektronnyye preobrazovateli informatsii, Leningrad, "Mashinostroyeniye," 1971, 312 pp. 2 tab. 160 ill. 54 ref. 1 r 28 k

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SMOLOV, VLADIMIR BORISOVICH, et al., Universal'nyye elektronnyye preobrazovateli informatsii, Leningrad, "Mashinostroyeniye," 1971, 312 pp. 2 tab. 160 ill. 56 ref. 1 r 28 k

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SMOLOV, VLADIMIR BORISOVICH, et al., Universal'nyye elektronnyye preobrazovateli informatsii, Leningrad, "Mashinostroyeniye," 1971, 312 pp. 2 tab. 169 ill. 54 ref. 1 r 28 k

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SMOLOV, VLADIMIR BORISOVICH, et al., Universal'nyye elektronnyye preobrazovateli informatsii, Leningrad, "Mashinostroyeniye," 1971, 312 pp. 2 tab. 160 ill. 54 ref. 1 r 28 k

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USSR

UDC: 911.3.616.981.42(47+57)

ASLANYAN, R. G., KAYTMAZOVA, D. S., KURDINA, D. S., ZABRODIN, V. A.

"Natural Foci of Brucellosis"

V sb. Materialy SV Vses. S'yezda epidemiologov, Mikrobiologov i infeksionistov. Tezisy dokl. Ch. I. (Proceedings of the 15th All Union Conference of Epidemiologists, Microbiologists and Specialists in Infectious Diseases, Report Theses Part I--collection of works) Moscow, 1970, pp 112-113 (from RZh-Meditsinskaya geografiya, No 1, Jan 71, Abstract No 1.36.113, by V. Maslovskaya)

Translation: Brucellosis infection has been observed in the last few years among wild animals of the USSR Far North. Instudying 1,437 wild animals and fur-gearing animals from farms (wild reindeer, polar wolf, polar fox, wolverine, muskrat, sable and others), 32 brucellosis culturas were isolated. They were all identical to cultures isolated from domesticated reindeer, i. e. of the biotype Brucella suis. The high incidence of brucellosis in the polar wolf (9.8%) furnishes indirect proof of the significant distribution of this infection among reindeer. The presence of brucellosis infection among wild animals and murine rodents acquires great epizootiological and epidemiological significance, considering the constant contact of wild reindeer with domesticated deer, and their commercial significance.

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USSR

UDC 619: 576.851.42

KAYTMAZOVA, YE. I., KURDINA, D. S., DRANOVSKAYA, YE. A., GREKOVA, N. A., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, and SAKHNOVSKIY, YU. G., State Scientific Control Institute of Veterinary Preparations

"Characteristics of Brucella ovis cultures"

Moscow, Veterinariya, No 10, 1971, pp 44-46

Abstract: Comparative study of several Brucella ovis strains isolated from sick animals in the Soviet Union (Novgorod and Pskov oblasts) showed that they are identical in morphological and biological properties to cultures isolated in Australia, New Zealand, Argentina, and Bulgaria. All strains were similar in differential properties (high carbon dioxide requirement fro growth, resistance to brucellosis Tb phage, oxidative metabolism) to Brucella melitensis. Infection of guina pigs with these strains showed that they are low in virulence (only a dose of $2 \cdot 10^9$ microbial cells induced disease). Histological examination revealed intensified lymphopoiesis and hyperplasia of reticular cells in the lymph nodes and spleen and the appearance of lymphoid nodules in the lungs. All the strains studied attacked the testes, inpairing spermatogenesis.

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UDC 627.81:551.48

USSR

KURDOV, A. G.

"Method of Calculating the Guaranteed Minimum River Runoff (1967)"

Izuch. i. ispol'z vodn. resursov SSSR. 1966-1967 -- V sb. (Study and Use of USSR Water Resources. 1966-1967 -- Collection of Works), Moscow, Nauka Press, 1970, pp 48-49 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D15)

Translation: A basically genetic formula has been developed for calculating the probability minima of river runoff the structure of which fully coincides with the structure of the formula for calculating $\bar{Q}_{min}$ in the following form:

$$\frac{Q}{\bar{K}_{0,p}} = 0.0002(F-F_{0,p})^{1.20},$$

where Q_p is the guaranteed minimum flow rate the probability of possible reduction of which is on the average p. The basic components of the formula for $\bar{K}_{0,p}$ as a mean characteristic for all rivers of the region, for example, for the summer drought, consists of the following terms of the water balance

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KURDOV, A. G., Izuch. i. ispol'z vodn. resursov SSSR. 1966-1967, Moscow, Nauka Press, 1970, pp 48-49

equation:

$$\bar{K}_{0,p} = 10^3(\bar{X}_1 + \bar{X}'_p - \bar{Z}_p - \bar{t}_p - \bar{P}_p)\varepsilon_p \text{ m/sec.}$$

The second probability parameter of the formula is $F_{0,p}$ -- the area of drying and freezing of the rivers of given probability, km^2. The formula has found practical application under the conditions of the Central Chernozem Region (its mean error is $\pm$20-25%).

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Hydraulic and Pneumatic

USSR UDC 627.81:551.48

KURDOV, A. G., OSTROVSKIY, G. M.

"Formula for Calculating the Minimum Runoff Norm of Mountain [Semimountainous] Rivers [In the Example of the Bashkir ASSR]"

Izuch. i. ispol'z vodn. resursov SSSR. 1966-1967 -- V sb. (Study and Use of USSR River Resources. 1966-1967 -- Collection of Works), Moscow, Nauka Press, 1970, 49-50 (from RZh-Elektrotekhnika i Energetika, No 2, Feb 71, Abstract No 2 D16)

Translation: A formula is derived for calculating the minimum runoff norm of mountain (semimountainous) rivers

$$\bar{Q}_{min} = \lambda(aH_{ave} + b)(F - F_0)^n,$$

where H_{ave} is the average altitude of the water shed; F is the area of the watershed; F_0 is the annual drying (freezing) area of the river channels.

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USSR

UDC 669.018.25(075)

ROMANOVA, N. I., CHEKULAYEV, P. G., DUSEV, V. I., LIVSHITS, T. A., and KURDOV, M. N.,

"Metal Ceramic Hard Alloys"

Metallokeramicheskiye Tverdyye Splavy (English Version Above), Metallurgiya Press, 1970, 352 pages

Translation of Annotation: This book presents in brief form the basic principles of the production and application of metal ceramic hard alloys. Information is presented on the initial raw material, and methods are described for producing powders of metals and carbides used in the manufacture of hard alloys.

Methods of grinding the initial materials and methods of preparing the mixtures and pressing them are described. Description are given of processes occurring during sintering of alloys, and methods of treating hard alloy products. Areas of their application in the metal working and mining industries are described. Methods of quality testing of products during preparation of hard alloys are discussed.

The book is designed as a teaching aid for professional and technical schools training workers in the production of metal ceramic hard alloys. 94 figs; 51 tables; 19 biblio. refs. 1/10

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USSR

ROMANOVA, N. I., et al., Metallokeramicheskiye Tverdyye Splavy, Metallurgiya Press, 1970, 352 pages

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ROMANOVA, N. I., et al., Metallokeramicheskiye Tverdyye Splavy, Metallurgiya Press, 1970, 352 pages

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USSR

ROMANOVA, N. I., et al., Metallokeramicheskiye Tverdyye Splavy, Metallurgiya Press, 1970, 352 pages

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71. Operation of Sharpening Equipment and Tools 322

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

ROMANOVA, N. I., et al., Metallokeramicheskiye Tverdyye Splavy, Metallurgiya Press, 1970, 352 pages

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72. Methods of Drilling Blast Holes and Bore Holes 331
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1/2 035 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DEVICE FOR TURBIOMETRIC ANALYSIS -U-

AUTHOR-(02)-BARAMBOYM, N.K., KURDUBOV, YU.F.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(3), 281-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--TURBIDIMETER, PHOTOELECTRIC CELL, TURBIDITY, LIGHT SCATTERING, TITRATION, POLYMER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1959 STEP NO--UR/0032/70/036/003/0281/0282

CIRC ACCESSION NO--AP0132220
UNCLASSIFIED

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UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 035

CIRC ACCESSION NO--AP0132220

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM A LIGHT SOURCE, THE LIGHT IS DIRECTED THROUGH THE SOLN. INTHIN A CELL AND THEN ONTO A PHOTOCELL. THE SCATTERED AND TRANSMITTED LIGHT ARE REGISTERED BY 2 POTENTIOMETERS. THE HEAT TRANSFER MEDIUM FROM A THERMOSTAT IS DIRECTED TO THE THERMOSTATING JACKET OF THE CELL AND TO A CAPILLARY COOLLER THROUGH WHICH THE TITRANT IS ADDED AUTOMATICALLY. THE RATE OF THE TITRANT ADDN. CAN BE VARIED. A MOTOR DRIVEN STIRRER AGITATES THE SOLN. AT 60 RPM. THE APP. ENABLES AUTOMATIC TURBIDIMETRIC AND NEPHELOMETRIC TITRN. COMBINED WITH RECORDING OF THE TURBIDITY AND LIGHT SCATTERING. IT FURTHER ENABLES DETN. OF THE STABILITY OF THE SYSTEM, FORMATION OF NEW PHASES, AND DISTRIBUTION OF POLYMERS. FACILITY: MOSK. TEKHNOL. INST. LEGK. PROM., MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

Aerospace Medicine

UDC 613.693

USSR

KURDYAYEV, K. V., Lt Col Med Serv, KOZACHA, P. G., Lt Col Med Serv, PEKSHEV, V.V., Maj Med Serv, and GNITSEVICH, V. M., Maj Med Serv

"Psychophysiological Characterization of the Work Performed by Air Force Transportation Flight Personnel in Low-Altitude Flights"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 5, 1973, pp 62-63

Abstract: In low altitude flights, because of impeded visual orientation and a reduced effective range of radio equipment, the pilot devotes 75-85% of his time to surveying the air space and ground surface ahead of him and to visually maintaining the altitude and course. In rough weather, these flights require not only concentrated attention but also a considerable physical effort and quick reactions each time the aircraft is pitched and tossed. All these factors cause nervous tension and emotional stress which are aggravated by frequent landings at unfamiliar airports. During stopovers, the flight personnel have little time to rest since they participate in loading and unloading. These specific aspects of low-altitude flights should be given careful consideration by the Air Force Transportation Medical Service. Since during prolonged flights over monotonous plains visual depth perception deteriorates, it is

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USSR

KURDYAYEV, K. V., et al., Voyenno-Meditsinskiy Zhurnal, No 5, 1973, pp 62-63

recommended periodically to rise higher altitudes for 3-5 min. Light-filtering spectacles should be worn during flights over large water bodies and snow-covered areas on sunny days. Transfer from high-to low-altitude flights presents definite difficulties even to experienced pilots. Air Force physicians should pay particular attention to pilots just learning low-altitude skills and to those physically weak and emotionally unstable. Physical examinations should be performed between and prior to flights, and training must be planned according to the results. It is especially important strictly to adhere to the schedule of drills of gradually increasing difficulty and to utilize all ground-training equipment prior to flights. Since it is seldom possible for pilots to get adequate pre-flight rest at home during daytime, suitable facilities for rest and some sports should be made available at the airport. Members of each crew should be selected according to mutual psychological compatibility.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

KURDYAYEV, K.V.

J-9979 82

...ANGES IN THE FUNCTIONAL STATE OF THE BODY
...AMONG THE FLIGHT PERSONNEL OF CIVIL
MILITARY AVIATION. (pp 59-60)

By Lieutenant Colonel Medical Service K. V. Kurdyayev,
Candidate of Medical Sciences,
Major Medical Service A. S. Yefremov,
Lieutenant Colonel Medical Service S. A. Ivanteyev,
Lieutenant Colonel Medical Service S. I. Ivantsov
and Major Medical Service V. I. Ivantsev

The modern technical equipment of the ...
...aviation has considerably broadened its tactical possibilities. Naturally, this has changed the conditions of its professional activities and the capability of the ...
...requirements concerning the working capability of the personnel of the flight crews. Of late, there were published dedicated to the medical study of the working conditions and way of life of civil flight personnel. Thus, as a result of clinical-physiological and psychologic studies of the flight activities, a number of authors have provided medical descriptions and described the specific characteristics of long-distance flights ...
...nevich, Ye. ..., Kantarev, ..., A. Vedrov, ..., Kozyavkin, ..., Zakharchuk, ..., Ivanyanin, V. ..., Kozyavkin, ..., Zakhmyanin, 1960, and others).

The object of our study was the influence of ...
...average-length flights on the body of the flight personnel. In this effort, we studied 42 members of flight crews who displayed no deviations in their state of health. They were in the 20-39 years age group with ... to 14 years of flight experience. The studies were made before the flights and after them. Flights were ... in the spring-summer period. The flights took place in simple weather conditions at a ... meters altitude. Inboard and landing took place at the base airfield. The influence of the flights on the state of the body was evaluated through studies of the ... and cardiovascular systems and through laboratory data.

With a view to evaluating the dynamics of ...
...the stimulation, we used the intermittent flashing of ... numbers test. We determined a steady increase in the ... with the starting data (from ... to initial ...). ... beneath the average value of starting data still to be ... by 8), the overall time was increased insignificantly (by three seconds). The attention span was determined with the help of the correctional method involving the use of Landolt rings. The number of

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UDC 548.74:539.23

USSR

PILYANKEVICH, A.N., and KURDYUMOV, A.V., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Electron-Microscopic Study of Thin Films of Low-Temperature Pyrocarbon"

Kiev, Poroshkovaya Metallurgiya, No 8, 1971, pp 92-96

Abstract: The mechanism of formation of this material during pyrolysis and correlations of modifications in the mechanism with changes in external conditions were studied by investigating thin films of low-temperature pyrocarbon. The thin films with identical mean thickness ~600 AU are obtained at 800° by the decomposition of heptane vapor on the surface of amorphous polished quartz. The films of pyrocarbon were separated from the quartz sublayer in hydrofluoric acid and investigated using transmitted beam in the EM-6A electron microscope. The margin of the fracture of a film obtained at lowest heptane concentration (the thermostat temperature of fatigue pyrocarbon was 20°) showed a lamellar structure without any destructions of its integrity. When the heptane concentration was increased (30°) there were marked changes in the structure of pyrocarbon films. The perfection of the crystalline structure decreased sharply. Data obtained indicate that there is no single mechanism of pyrolysis and formation of carbon deposit. The following correlations of the formation of low-temperature pyrocarbon were derived: with variation in hydrocarbon vapor composition in the reaction volume of the

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

USSR

PILYANKEVICH, A.N., et al, Kiev, Poroshkovaya Metallurgiya, No 8, 1971, pp 92-96

furnace, the mechanism of formation of pyrocarbon films is markedly modified, and with increase in concentration the successive transition from the radical mechanism to the dropwise mechanism, and thereupon to the direct decomposition of the hydrocarbon with formation of carbon black particles in the volume, is observed.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UDC 669.71.018.9.411

USSR

CHULKOV, V. S., MIKHENCHEV, L. A., and KURDYUMOV, A. V.

"Influence of Flux Composition and State on Microporosity and Gas Content of Ingots During Electric-Flux Refining"

Tekhnol. legkikh splavov. Nauchno-tekhn. byul. VILSa [The Technology of Light Alloys, Scientific and Technical Bulletin of the All-Union Institute of Light Alloys], No 4, 1970, pp 34-36 (Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract 2 G166 by A. Tseydler)

Translation: The effect of flux composition and state on the gas content of alloys based on Al is studied. Two fluxes were used with compositions (in %): 1) $KCl \cdot MgCl_2$ 90 and MgF_2 10; 2) KCl 47, NaCl 30, Na_3AlF_6 23. To decrease the content of H_2 and microporosity in ingots of the alloys, fluxes must be used only in the liquid state, with holding in the liquid state before consumption for at least 30 minutes. 12 figures.

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UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 014

TITLE--APPARATUS FOR FORCED CONVECTIVE MIXING DURING CONTROLLED CRYSTALLIZATION -U-

AUTHOR-(02)-MOLOCHKO, V.A., KURDYUMOV, G.M.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(2), 156

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CRYSTALLIZATION, CHLORIDE, BROMIDE, ZONE REFINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1668 STEP NO--UR/0064/70/046/002/0156/0156

STEP ACCESSION NO--AP0118646 UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UNCLASSIFIED PROCESSING DATE--23OCT7(

2/2 014

CIRC ACCESSION NO--AP0118646

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORCED CONVECTIVE MIXING OF THE LIQ. PHASE (IN A SPECIAL VERTICAL COLUMN APP.) IN DIRECTIONAL CRYSTN. PROCESSES (E.G., ZONE REFINING) CAUSES A MARKED DECREASE IN THE RESIDUAL IMPURITIES CONTENT OF VARIOUS SUBSTANCES (GECL SUB4, SIBR SUB4, ASCL SUB3, ETC.); IN THE PURIFICATION OF ME SUB2 SO AT A CRYSTN. RATE OF 0.8 CM-HR, THE RESIDUAL IMPURITIES CONTENT AFTER CRYSTN. WITH OR WITHOUT SUCH MIXING WAS SMALLER THAN OR EQUAL TO 1 TIMES 10 PRIME NEGATIVE4 AND 2.7 TIMES 10 PRIME NEGATIVE3PERCENT, RESP., FOR AN INITIAL IMPURITIES CONTENT OF 5.5 TIMES 10 PRIME NEGATIVE3PERCENT.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DISTRIBUTION OF IMPURITIES DURING THE ZONE CRYSTALLIZATION OF LIQUIDS -U-

AUTHOR-(02)-VOLPYAN, A.YE., KURDYUMOV, G.M.

COUNTRY OF INFO--USSR

SOURCE--TEOR. OSN. KHIM. TEKHNOL. 1970. 4(2), 281-5

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--CRYSTAL IMPURITY, ZONE REFINING, CRYSTALLIZATION, CHEMICAL PURIFICATION, DIOXANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0396 STEP NO--UR/0455/70/004/002/0281/0285

CIRC ACCESSION NO--AP0111589
UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UNCLASSIFIED PROCESSING DATE--30OCT70

2/2 019

CIRC ACCESSION NO--AP0111589

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THEORY OF ZONE CRYSTN. OF LIQS. AS A PROCESS OF PURIFICATION WAS DEVELOPED MATH. ON THE BASIS OF PFANN (1964) CONDITIONS. THE THEORY WAS APPLIED TO THE PURIFICATION OF DIOXANE CONTG. BETA,NAPHTHALENESULFONYL CHLORIDE, 9 TIMES 10 PRIME NEGATIVE4 MOLE-L., AS AN IMPURITY. THE AMPUL RAISED AT 3 CM-HR WAS COOLED TO NEGATIVE 10 AND HEATED TO 35DEGREES. THE EFFECTIVENESS OF PURIFICATION IN A 2 ZONE PROCESS WAS HIGHER THAN IN A SINGLE ZONE PROCESS AND IT WAS HIGHER IN THE CRYSTN. OF LIQS. THAN IN THE CRYSTN. OF SOLIDS. THE DIFFERENCES DECREASED AS THE NO. OF ZONES INCREASED. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PRODUCTION OF HIGH PURITY GERMANIUM TETRACHLORIDE BY REMOVING PHOSPHORUS IMPURITY -U-

AUTHOR-(05)-FEDOROV, P.I., MOLOCHKO, V.A., KURDYUMOV, G.M., GALOCHKINA, V.G., SMIRNOVA, T.YU.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., TSVET. MET. 1970, 13(1), 82-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL PRODUCTION, GERMANIUM COMPOUND, CHLORIDE, PHOSPHORUS, CHEMICAL SEPARATION, CRYSTALLIZATION, PHOSPHORUS CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0632 STEP NO--UR/0149/70/013/001/0082/0086

CIRC ACCESSION NO--AT0137717

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 013
CIRC ACCESSION NO--AT0137717
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DTA INDICATED THAT PCL SUB3, POCL SUB3, AND PCL SUB5 ARE INACTIVE COMPONENTS AND ARE PRESENT IN THE EUTECTIC. VERY SMALL QUANTITIES OF PCL SUB3 AND POCL SUB3 ARE SOL. IN GECL SUB4 SOLID PHASE. THE EQUIL. DISTRIBUTION COEFF. AND THE SOLIDUS LINE ARE DEFINED FOR VERY SMALL AMTS. OF POCL SUB3 AND PCL SUB3 IN GECL SUB4. THE MEANS FOR CALCG. THE THICKNESS OF A DIFFUSION LAYER DURING CRYSTN. REFINEMENT IS PROPOSED. FOR PURIFICATION OF GECL SUB4, RECRYSTN. IS THE MOST SUITABLE METHOD. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 029 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DEFORMATION AGING OF MARTENSITE BY USING HYDROEXTRUSION -U-

AUTHOR-(05)-KURDYUMOV, G.V., VERESHCHAGIN, L.F., ENTIN, R.I., GUREVICH, YA.B., KONTAYEV, YU.S.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL METALLOVED. 1970, 29(4), 869-73

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, MATERIALS

TOPIC TAGS--METAL AGING, METAL DEFORMATION, METALLURGIC RESEARCH FACILITY, HYDROSTATIC EXTRUSION, MARTENSITE, ALLOY DESIGNATION, LOW ALLOY STEEL/(U)KHNMS LOW ALLOY STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0369 STEP NO--UR/0126/70/029/004/0869/0873

CIRC ACCESSION NO--AP0126124

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0"

"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 029

CIRC ACCESSION NO--AP0126124

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATIONS WERE PERFORMED ON STEEL OF THE KHNMS TYPE WITH A C CONTENT OF 0.45PERCENT, PREPD. BY OPEN INDUCTION SMELTING. WITH INCREASING DEGREE OF DEFORMATION THE STRENGTH AND THE YIELD POINT INCREASE. A "CRIT. DEGREE" OF DEFORMATION OF SIMILAR TO 5PERCENT IS OBSD. THEREBY, ABOVE WHICH THE INCREASE IN THE STRENGTH IS RELATIVELY SMALL. THE HIGHEST STRENGTH VALUES ARE OBTAINED UNDER THE CONDITIONS OF HYDROEXTRUSION OF MARTENSITE AND THE SUBSEQUENT NATURAL AGING AT ROOM TEMP. AS THE AGING TEMP. IS INCREASED, THE STRENGTH DECREASES, BUT THE EFFECT IS RETAINED EVEN AFTER AGING AT 400DEGREES. X RAY DIFFRACTION INVESTIGATIONS AND PRECISION D. MEASUREMENTS WERE EMPLOYED TO STUDY THE REASONS FOR THE SIMULTANEOUS INCREASE IN THE STRENGTH AND THE PLASTICITY OF THE STEEL. THE PREVIOUSLY OBTAINED RESULTS CONCERNING THE EFFECTIVENESS OF DEFORMATION AGING OF MARTENSITE UNDER HYDROEXTRUSION CONDITIONS WERE CONFIRMED. THE OPTIMUM TREATMENT CONDITIONS WERE ESTABLISHED. FACILITY: TSNIICHM IM. BARDINA, MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--TRANSLATIONALLY INVARIANT SHELL MODEL -U-

AUTHOR-(04)-KURDYUMOV, I.V., SMIRNOV, YU.F., SHITIKOVA, K.V., ELSAMARAI, S.KH.

COUNTRY OF INFO--USSR

SOURCE--NUCL. PHYS. A 1970, 145(2), 593-612

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR SHELL MODEL, HARMONIC OSCILLATION, WAVE FUNCTION, COORDINATE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0011 STEP NO--NE/0000/70/145/002/0593/0612

CIRC ACCESSION NO--AP0114411

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0114411

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TRANSLATIONALLY INVARIANT SHELL MODEL IN WHICH THE N OSCILLATE HARMONICALLY WITH RESPECT TO THE NUCLEAR CENTER OF MASS IS CONSIDERED. IN THIS MODEL THE WAVEFUNCTION OF THE NUCLEUS DEPENDS ON THE 3(A-1) JACOBI COORDINATES. THUS, THE PROBLEM OF THE SPURIOUS STATES IS ABSENT IN THIS MODEL. THE TRANSFORMATION FROM ONE SET OF JACOBI COORDINATES INTO ANOTHER FOR THE OSCILLATOR WAVEFUNCTIONS IS DISCUSSED. THE METHOD FOR CALCG. THE FRACTIONAL PARENTAGE COEFFS. IS SET OUT. FACILITY: INST. NUCL. PHYS., MOSCOW STATE UNIV., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--GENERALIZED CONCEPTION OF FRACTIONAL PARENTAGE AND THE (ALPHA D) (PRIME3 HE T) DUALITY IN THE PRIME6 LI NUCLEUS -U-

AUTHOR-(03)-KURDYUMOV, I.V., NEUDATCHIN, V.G., SMIRNOV, YU.F.

COUNTRY OF INFO--USSR

SOURCE--PHYS. LETTERS (NETHERLANDS), VOL.3 18, NO.7, P.426-8 (30 MARCH 1970)

DATE PUBLISHED--30MAR70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HELIUM, MODEL, NUCLEON INTERACTION, LITHIUM, MATHEMATIC EXPRESSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0566 STEP NO--NE/0000/70/031/007/0426/0428

CIRC ACCESSION NO--AP0111759

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0111759

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FRACTIONAL PARENTAGE CONCEPT IS GENERALIZED FOR THE CASE OF THE NUCLEON CLUSTER MODEL. IN TERMS OF THIS, MODEL CALCULATIONS ARE MADE FOR THE PRIME6 LI NUCLEUS OF THE WAVE FUNCTIONS PHI OF MUTUAL CLUSTER MOTION ALPHA D AND PRIME5 HE T. FOURIER IMAGES OF WHICH ARE MEASURED IN THE QUASIELASTIC KNOCK OUT REACTIONS. ALSO OBTAINED ARE THE REDUCED WIDTHS THETA PRIME2 IN THE CHANNELS ALPHA D AND PRIME3 HE T. THE PRIME3 HE T CHANNEL IS ONLY SLIGHTLY DEPRESSED. THETA SUB1 PRIME2 SIMILAR TO OR EQUIVALENT TO 0.5. THE WAVE FUNCTION PHI (PRIME3 HE T) IS APPRECIABLY MORE LOCALIZED THAN THE FUNCTION PHI (ALPHA D), WHICH IS REFLECTED IN THE FORM FACTORS. FACILITY: MOSCOW STATE UNIV., USSR.

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--INFLUENCE OF THE NUCLEAR STRUCTURE ON PHOTODISINTEGRATION OF LITHIUM 6 -U-

AUTHOR-(04)-KURDYUMOV, I.V., SMIRNOV, YU.F., SHITIKOVA, K.V., ELSAMARAI, S.KH.

COUNTRY OF INFO--USSR

K

SOURCE--PHYS. LETT. B 1970, 31(4), 163-6

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--NUCLEAR STRUCTURE, PHOTONUCLEAR REACTION, LITHIUM ISOTOPE, EXCITED NUCLEUS, EXCITATION CROSS SECTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/0808 STEP NO--NE/0000/70/031/004/0163/0166

CIRC ACCESSION NO--AP0052244

UNCLASSIFIED

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"APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002201630007-0

2/2 018 UNCLASSIFIED PROCESSING DATE--18OCT70

CIRC ACCESSION NO--AP0052244

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTEMPT IS MADE TO DESCRIBE IN A SINGLE WAY THE TOTAL CURVE OF THE DIPOLE PHOTOEXCITATION OF THE PRIME6 LI NUCLEUS. THE PARTIAL CROSS SECTIONS OF PHOTOREACTION AND THE DECAY SPECTRA ARE COMPARED TO EXPTL. DATA. THE INFLUENCE OF THE EFFECTS OF N CLUSTERING IN THE GROUND STATE ON THE FORM OF PHOTOABSORPTION CROSS SECTION IS ESTD. FACILITY: INST. NUCL. PHYS., MOSCOW STATE UNIV., MOSCOW, USSR.

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